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ABSTRACT

The National Center for Research in Vocational Education has completed the first two years of an effort in futures research. The purpose of year 1 was to collect and synthesize information concerning the major societal trends which are likely to influence vocational education during the 1980s. The major thrust of year 2 was directed towards analysis and interpretation of year 1 data for the purpose of generating alternative 1990 scenarios for vocational education. Among the trends identified was the marked advances in high technology that will occur in the 1980s. The dominant source of demographic change in the 1980s will be a continuing influence of the baby boom generation born between the years 1945 and 1963. The full force of the aging of the baby boom children will be felt by secondary schools during the 1980s. The general trend of the public mood is toward fiscal conservatism, at least during the next several years. This suggests that public support for vocational education may drop off in the 1980s. The shift to an information-based society and labor market indicates that clients of vocational education must possess the skills necessary to collect, synthesize, and disseminate information. (A scenario for vocational education in 1990 is also included.) (LRA)

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A STUDY OF THE FUTURE OF VOCATIONAL EDUCATION: IMPLICATIONS FOR LOCAL PLANNING

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC,"

A Study of the Future of Vocational Education: Implications for Local Planning

In 1979 the National Center for Research in Vocational Education initiated, as part of its policy studies program, an effort in futures research. Presently, that effort is in its third year. This paper addresses the work which has been completed during the first two years.

The paper is divided into three sections. The first section is an overview of the research methodology for Years I and II. This section is abbreviated to permit the presenter to concentrate the available time on results. The remaining two sections are devoted to delineating a set of societal trends likely to influence vocational education in the 1980s and to describing a 1990 scenario for vocational education which is responsive to the dynamics generated by these trends. Both of these sections have implications for those concerned with planning vocational education at the local level.

METHODOLOGY

Year I

The purpose of Year I was to collect and synthesize information concerning the major societal trends which are likely to influence vocational education during the 1980s. Two data collection methods were employed.

A Delphi study was conducted using a panel of national leaders representing a wide variety of diciplines and

positions. The instrumentation was developed by National Center staff and the final version contained thirty-six events and five rating scales (If an event might occur, When the event might occur, Desirability of the event, potential Impact of the event and the power of vocational educators to Influence the event). A three-round procedure was employed for data collection.

The second approach emphasized obtaining in-depth information concerning the following five areas: Demography, labor force participation, economic shifts, societal expectations and education. This information was obtained via a subcontract with the Institute for the Future in Menlo Park, California. In general, their analysis was based on trend extrapolation. The results of Year I are published in a final report by Lewis and Russell (1980).

Year II

The major thrust of Year II was directed towards analysis and interpretation of Year I data for the purpose of generating alternative 1990 scenarios for vocational education. However, one additional original data collection procedure was conducted. Although the Year I data provided substantial information about the trends affecting vocational education in the 1980s, it did not provide information relative to the impact of the trends upon the major policy initiatives in vocational education. In order to obtain this information, a cross-impact analysis was conducted by mail

using a multi-disciplinary panel of thirty-six national leaders. Both qualitative (narrative) and quantitative information was collected.

The qualitative data was obtained by having panel members respond to the question: "Please describe the effects of trend X upon policy initiative Y." The respondents also provided an indication of the degree of impact by rating the effect on a five point scale ranging from strongly enhancing to strongly diminishing the policy initiative.

The cross-impact data, along with the information from Year I, were used as the base for developing the alternative 1990 scenarios. The Year II results are published in a report by Ruff, Shylo and Russell (1981). A summary of those results are presented in the following sections.

TRENDS OF 1980s

It would appear that the 1980s will be anything but a decade which will be characterized as business-as-usual. Normally, major forces are at play in the social system which tend to mollify major reforms. However, because of the convergence of the set of powerful social, economic, and political trends, the 1980s may represent a unique period of time--a decade which will require and create new leaders, new alliances and the fundamental reformulation of ideas.

If the 1980s are such a period, then the vocational community will experience both the opportunity and necessity to institute substantial changes in the nature and direction

of vocational education. If such changes are to be effectively planned, designed and implemented, it is critical that state and local vocational leaders concern themselves with the issues and challenges derived from the social and economic needs of society-at-large. The remainder of this section is devoted to delineating a set of societal trends which are likely to be important in planning a vocational education enterprise which will be responsive to the needs of the 1980s.

High Technology

Commenting in a article in the Futurist on just the impact of microelectronics, Colin Norman (1981, p.30) recently noted--"the advances in microelectronic technology have touched off a Second Industrial Revolution." The major impact of this Second Industrial Revolution on the job market and on training requirements has yet to occur. The advances in technology, coupled with the proposed investment and tax policies of the Reagan administration should create a boom period for new technologies. In addition to creating new skilled positions, the expansion of high technology will force the upgrading of existing occupations--transforming previously routine positions into ones with higher skill demands. Moreover, a number of displaced workers will require retraining in order to be employable.

It is difficult to envision the total magnitude of the influence that the wide-scale introduction of high technology will have on vocational education. Forecasting that item

would seem similar to judging the impact of the airplane on modern society by observing the happenings at Kitty Hawk, North Carolina in 1903. The scope of the impact is difficult to envision since it will influence not only the type of training vocational education will be called upon to deliver, but also the methods employed to deliver that training.

Demographics

The dominant source of demographic change in the 1980s will be a continuing influence of the baby boom generation born between the years 1945 and 1963. The full force of the aging of the baby boom children will be felt by secondary schools during the 1980s. The number of students enrolled in high school, grades 9 to 12, is projected to drop from 15 million in 1980 to approximately 12.5 million in 1990 (Lewis and Russell, 1980).

Although the number of individuals in the high school age cohort will decrease in the coming decade, there will be a sharp increase in the 35 to 44 year-old age group. This group will experience a 33 percent increase between 1977 and 1985. An additional consideration important for vocational education is the forecast that the number of women in this age group who will enter or reenter the workforce will increase sharply from 60 percent in 1977 to 75 percent in 1995 (Lewis and Russell, 1980, p.143).

The importance of demographics for local planning in vocational education extends beyond the shifts in the relative

number of individuals in different age groups. The minority mix of the population is one additional important consideration. In the coming years the proportion of minorities in the high school age population will continuously increase. In 1977 the minority enrollment in high school was approximately 17 percent, the projection for 1985 is 19 percent--for 1995 the projection is 21 percent (Lewis and Russell, 1980, p.145). In selected parts of the country, such as the southwest and in certain large urban areas, the percentages will be even greater.

The educational and training implications of the loss of traditional clients and the rise in importance of new populations is a trend to which local vocational education planners must be extremely sensitive during the 1980s.

Economics

Never before has economics been more talked about and never before have so many different opinions been voiced. Although the discussion was just begun, the critical consideration for the vocational education community relates to recognizing that the 1980s will not be business-as-usual when it comes to economic issues.

Although the opinions of economist tend to differ, most do agree that a fundamental change is needed in our present economic policy. Amitai Etzioni (1980, p. 1818) recently noted--"All agree that something is more amiss in the American economy that an unduly high reading on some indicators, poor

productivity growth and low savings--the problem is more severe than just one more downturn of the age-old business cycle."

Given the assumption that a significant change in economic policy will occur in the 1980s, several trends appear to be relatively clear and of substantial importance for vocational education. First, the general trend of the public mood is towards fiscal conservatism, at least during the next several years. This would tend to suggest that although public support for vocational education increased during the 1970s, the same may not be true during the 1980s. Second, the 1980s will necessitate more emphasis on determing economic priorities, leading to a decade of economic winners and losers. Third, more discretion and flexibility will probably be extended to state and local governments in the utilization of federal monies.

Information Based Society

In an article dealing with major trends in the United States during the 1980s, John Naisbitt (1980 p.8) recently suggested that the impact of the shift to an information based society "will be more profound than the nineteenth century shift from an agricultural to an industrial society."

The impact of the shift to an information-based society and labor market has significant implications for the entire educational community, including vocational education. If the clients of vocational education are to function effectively at

work or in their personal lives, they must possess the skills necessary to collect, synthesize and disseminate information. The flood of information and the rapidity to which knowledge becomes dated will create the need to focus on learning how to learn and on developing the ability to identify what is important to learn.

The advanced demands of a information-based society, plus the present public concern with basic skills, will pose a set of serious issues for vocational education during the 1980s.

A SCENARIO FOR 1990

It was noted that it will be important for vocational planners to focus their energies on the issues and challenges derived from the needs of society-at-large. The previous section presented a set of trends which will probably be influential in driving those needs. In this section a scenario for vocational education in 1990 is developed. The scenario is a partial one; it futuristiscally portrays a set of changes which the vocational education enterprise will institute in the 1980s to be responsive to the noted trends of that period.

- Economic Development. In the 1980s vocational education, particularly at the postsecondary level, will become an important factor in economic development. The role will be two-fold. First, state divisions of vocational education will develop close linkages with state Departments of Commerce to assist in attracting new industries to the states. Second, the vocational community in the respective states will work with existing industries to provide the training needed to upgrade and retrain the incumbent work force. A variety of delivery methods will be employed--training will be

conducted at the industrial site, at postsecondary institutions and at lease facilities.

- Energy. Vocational education will define its role in addressing the nation's energy needs. Although vocational education will continue to perform its traditional role of training workers for occupations in the energy industry, a more important role will be in the area of energy conservation. More vocational education programs will incorporate training in energy conservation techniques. This role could well influence the curricula in all vocational programs.

- Enrollment Patterns. Vocational education, particularly at the secondary level, will reflect a higher proportion of minority students due to the increases in the relative number of minorities among the high school age population. In order to achieve this increase, vocational planners will need to initiate new recruiting efforts directed at minority groups.

- Curriculum. Several changes will take place in relation to curriculum. First, at the secondary level more empahsis will be placed on basic education skills (3 R's) and on the importance of good work habits. Second, more emphasis will be placed on occupations which incorporate high technologies and those occupations in the information sector. This will be particularly true at the postsecondary level. Third, a large number of short-term, intensive, specialized type of training courses will be instituted to be responsive to the needs of the adult client population.

- Teacher Retraining. Teacher training has always been a major issue in vocational education, as well as the entire field of education. However, the problems to be faced in the 1980s will be particularly varied and complex. To deal with a greater diversity of clients, a greater diversity of curricula content, and to keep pace with technological changes, new approaches to teacher retraining will be needed. One solution which will be explored will be the developmment of cooperative agreements with business and industry to assist in the up-dating of vocational education teachers.

- Administrative Staffing. At the state level, there will be an increase in the number of staff who are functional specialists, as opposed to subject matter specialists. These specialists will have expertise in areas such as:

economic development, planning, and industrial relations. At the local level, vocational administratives will have to function in multiple roles in responsive to financial constraints.

- Access Equity. Although the federal government will retain an interest in equity issues relating to women, minority groups, and the disadvantaged and handicapped, a greater responsibility for ensuring equity to these groups will be shifted to the state and local level. This shift could have a significant effect on the equity movement.

SUMMARY

If the trends and probable developments for vocational education are summarized, two major considerations for local planning appear to be dominant. First, vocational education will be characterized in the 1980s by greater diversity--greater diversity in terms of client populations, curricula content and methods of delivery. Second, during the 1980s vocational education will develop closer working relationships with business and industry and the rest of the educational community.

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